

CLAIMS

What is claimed is:

1. A method for allocating memory to a process on a computer, the method comprising:
 - 5 creating a plurality of processes, each process being allocated a respective amount of memory; and
 - pooling the allocated memory for the processes together for use by at least one of the processes.
- 10 2. The method of Claim 1 wherein the at least one process is a single consumer process.
3. The method of Claim 1 wherein the processes include one consumer process and at least one donor process, the number of donor processes determined from the amount of allocated memory.
- 15 4. A computer implemented method for allocating memory by an operating system having a maximum process memory size for a consumer process requesting a memory size greater than the maximum process memory size, the method comprising:
 - receiving, in a memory driver, a request for memory from a consumer process;
 - 20 from the memory driver, creating at least one donor process, the number of created donor processes dependent on the size of the requested memory and the maximum memory size per process supported by the operating system;
 - from the donor process, allocating a memory space having a size determined by the donor process;

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transferring ownership, by the donor process, of the allocated memory space to the memory driver; and

from the memory driver, availing the allocated memory, to the consumer process.

- 5 5. A computer implemented method as claimed in Claim 4 wherein the size of the memory space allocated by the donor process is less than or equal to the maximum process memory size.
- 10 6. A computer implemented method as claimed in Claim 4 wherein the memory driver requests allocation of a portion of the memory size requested directly from the operating system.
7. A computer implemented method as claimed in Claim 4 further comprising:
from the donor process, sleeping until a terminate request is received from the memory driver.
- 15 8. A computer program product for allocating memory to a process on a computer, the computer program product comprising a computer usable medium having computer readable code thereon, including program code which:
creates a plurality of processes, each process being allocated a respective amount of memory; and
- 20 pools the allocated memory for the process together for use by at least one of the processes.
9. The method of Claim 8 wherein the at least one process is a single consumer process.

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10. The method of Claim 8 wherein the processes include one consumer process and at least one donor process, the number of donor processes determined from the amount of allocated memory.
- 5 11. A computer program product for allocating memory by an operating system having a maximum process memory size for a consumer process requesting a memory size greater than the maximum process memory size, the computer program product comprising a computer usable medium having computer readable code thereon, including program code which:
- 10 receives, in a memory driver, a request for memory from the consumer process;
- from the memory driver, creates at least one donor process, the number of created donor processes dependent on the size of the requested memory and the maximum memory size per process supported by the operating system;
- 15 from the donor process, allocates a memory space having a size determined by the donor process;
- transfers ownership, by the donor process, of the allocated memory space to the memory driver; and
- from the memory driver, avails the allocated memory, to the consumer process.
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12. A computer program product as claimed in Claim 11 wherein in the program code the size of the memory space allocated by the donor process is less than or equal to the maximum process memory size.
13. A computer program product as claimed in Claim 11 wherein in the program code the memory driver requests allocation of a portion of the memory size requested directly from the operating system.
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14. A computer program product as claimed in Claim 11 wherein in the program code the donor process sleeps until a terminate request is received from the memory driver.
15. A computer system comprising:
- 5 a central processing unit;
- a memory system connected to the central processing unit which:
- creates a plurality of processes, each process being allocated a
- respective amount of memory; and
- pools the allocated memory for the process together for use by at
- 10 least one of the processes.
16. The computer system of Claim 15 wherein the at least one process is a single consumer process.
17. The computer system of Claim 15 wherein the processes include one consumer process and at least one donor process, the number of donor processes
- 15 determined from the amount of allocated memory.
18. A computer system comprising:
- a central processing unit;
- a memory system connected to the central processing unit;
- 20 an operating system and consumer process resident in the memory, the
- operating system further comprising a memory driver which:
- receives a request for allocation of memory greater than the
- maximum process memory size for the consumer process from the consumer
- process;
- 25 creates at least one donor process, the number of created donor processes dependent on the size of the requested memory and the maximum memory size per process supported by the operating system which:

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allocates a memory space having a size determined by the donor process; and

transfers ownership, by the donor process, of the allocated memory space to the memory driver; and

5 avails the allocated memory, to the consumer process.

19. A computer system as claimed in Claim 18 wherein the size of the memory space allocated by the donor process is less than or equal to the maximum process memory size.

10 20. A computer system as claimed in Claim 18 wherein the memory driver requests allocation of a portion of the memory size requested directly from the operating system.

21. A computer system as claimed in Claim 18 wherein the donor process sleeps until a terminate request is received from the memory driver.

15 22. An apparatus for allocating memory to a process in a computer comprising:
 means for, creating a plurality of processes, each process being allocated a respective amount of memory; and
 means for, pooling the allocated memory for the processes together for use by at least one of the processes.

20 23. The apparatus of Claim 22 wherein the at least one process is a single consumer process.

24. The apparatus of Claim 22 wherein the processes include one consumer process and at least one donor process, the number of donor processes determined from the amount of allocated memory.

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25. An apparatus for allocating memory by an operating system having a maximum process memory size for a consumer process requesting a memory size greater than the maximum process memory size comprising:

5 means for receiving, in a memory driver, a request for memory from the consumer process;

from the memory driver, means for creating at least one donor process, the number of created donor processes dependent on the size of the requested memory and the maximum memory size per process supported by the operating system;

10 from the donor process, means for allocating a memory space having a size determined by the donor process;

means for transferring ownership, by the donor process, of the allocated memory space to the memory driver; and

15 from the memory driver, means for availing the allocated memory, to the consumer process.

26. An apparatus as claimed in Claim 25 wherein the size of the memory space allocated by the donor process is less than or equal to the maximum process memory size.

27. An apparatus as claimed in Claim 25 wherein the memory driver requests
20 allocation of a portion of the memory size requested directly from the operating system.

28. An apparatus as claimed in Claim 25 further comprising:

25 from the donor process, means for sleeping, until a terminate request is received from the memory driver.

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29. An apparatus for allocating memory by an operating system having a maximum process memory size for a consumer process requesting a memory size greater than the maximum process memory size comprising:

5 a receiving routine, in a memory driver, which receives a request for memory from the consumer process;

in the memory driver, a donor process creation routine which creates at least one donor process, the number of created donor processes dependent on the size of the requested memory and the maximum memory size per process supported by the operating system;

10 in the donor process, a memory allocation routine which allocates a memory space having a size determined by the donor process;

an ownership transfer routine, in the donor process, which transfers ownership of the allocated memory space to the memory driver; and

15 in the memory driver, an availing routine which avails the allocated memory, to the consumer process.

30. An apparatus as claimed in Claim 29 wherein the size of the memory space allocated by the donor process is less than or equal to the maximum process memory size.

- 20 31. An apparatus as claimed in Claim 29 wherein the memory driver requests allocation of a portion of the memory size requested directly from the operating system.

32. An apparatus as claimed in Claim 29 further comprising:

25 in the donor process, a sleep program instruction for holding the allocated memory until a terminate request received from the memory driver.

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